

## Claims

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1. Device for determining changes of the density of a medium, characterized by the presence of a transmitting device for the emission of a transmit signal having constant  
5 frequency and amplitude, whereby the transmitted signal has a minimum of one period and the transmitting, device is coupled with the medium for the reception of the reflected and/or transmitted response signals from the medium there is at least one receiver unit, of which each is coupled to an A/D converter and a sampling unit, whereby the transmitter unit and the output of the A/D converter is linked to a numerical processing unit for  
10 detecting the phase shift between the send signal and the receive signal, the output of which is connected to a display.
2. Device for determining changes of the density of a medium according to claim 1, in which the transmitted signal has a sine shape.
3. Device for determining changes of the density of a medium according to one of claim  
15 2, in which the transmitted signal is an acoustic signal.
4. Device for determining changes of the density of a medium according to one of the claims 1 to 3, in which the transmitter unit allows the transmission of two send signals of different frequencies, with the signal propagation time of the send signals differing by a maximum of one period.
5. Device for determining changes of the density of a medium according to one of the claims 1 to 4, characterized by the fact that the transmitting and receiving devices consist of a single convertible sensor, and that the length of the transmitted signal is at the most equal to twice the distance between the sensor and the reflection point of the send signal in  
the medium.
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